

# PATENT ABSTRACTS OF JAPAN

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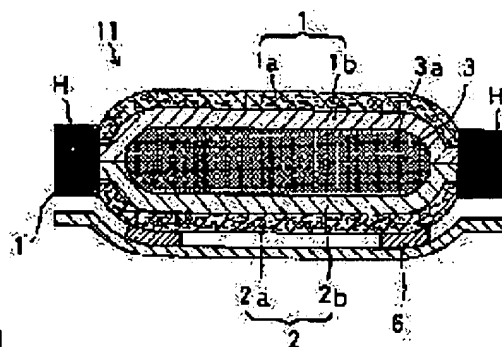
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(54) POROUS BAG BODY, AND HEAT GENERATING BODY, DEOXIDATION BODY, DEODORIZATION BODY, RIPENING BODY, DESICCATING AGENT, DEHUMIDIFYING AGENT AND SACHET USING THE SAME

(57)Abstract:

PROBLEM TO BE SOLVED: To provide a porous bag body and heat generating body, deoxidation body, deodorization body, ripening body, desiccating agent, dehumidifying agent and sachet using the same which are safe and highly reliable surely preventing the breakage of a seal layer, maintaining storing sealing performance and also preventing the leakage of contents, low temperature burn and staining clothes during use.

SOLUTION: This porous bag body is made by overlaying two or more layers of porous base material 1 comprising a reinforcing draft layer 1a and a porous membrane 1b and one or more layer of coating material 2 comprising a heat seal layer 2b, and the periphery of the same is heat sealed by heat sealing the heat seal layer. the heat seal layers is made of polyethylene which is polymerized or copolymerized by a single site catalyst whose active site characteristics is even.



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## DETAILED DESCRIPTION

[Detailed Description of the Invention]

[0001]

[Industrial Application] Amelioration of the porosity bag body with which this invention contains contents, such as an exoergic constituent, a deoxidant, a deodorant, a maturation constituent, a drying agent, a desiccant, or perfume, Furthermore, the heating element using this porosity bag body, a deoxidation object, a deodorization object, a maturation object, a dry material, It splits and generating of a breakthrough is prevented further. fracture of the seal section concerned at the time of heat sealing the periphery section in the porosity bag body about dehumidification material and a scent bag -- by this By preventing leakage and extremes-of-temperature lifting of contents, it is related with the porosity bag body which raised the yield, safety, and also dependability remarkably, the heating element using this, a deoxidation object, a deodorization object, a maturation object, a dry material, dehumidification material, and a scent bag.

[0002]

[Description of the Prior Art] Although the porosity bag body is used for a heating element, a deoxidation object, a deodorization object, a maturation object, a dry material, dehumidification material, a scent bag, etc., permeability is controlled according to the application.

[0003] Using generation of heat by oxidation with the air of iron powder, it is safe and, specifically, disposable Cairo warms the part of the body cheaply. In this case, although permeability is controlled and constant value is made to maintain exoergic temperature, the plastic film with many apertures several micrometers or less is used for control of this permeability.

[0004] By the way, this kind and a porosity bag body heat seal the porosity base material more than the aeration layer for reinforcement, and two-layer [ possessing porous membrane ], and the covering material of one or more layers which has a heat-sealing layer by superposition, heat seal that periphery section in said heat-sealing layer, and are formed.

[0005] After mixing the minerals impalpable powder (minerals bulking agent) like calcium-carbonate powder detailed as said porous membrane to polyolefine system resin, it fabricates the shape of a film, and in the shape of a sheet, and subsequently, this is extended and the thing in which micropore was formed around minerals impalpable powder is mentioned.

[0006] As said aeration layer for reinforcement, in order to make a feeling of an activity good generally, cloth, such as a nonwoven fabric with good aesthetic property and textile fabrics, is mentioned, this is made to rival to one side or both sides of said porous membrane, and a porosity base material is formed. As this nonwoven fabric, what was formed, for example of a polyamide, polyester, or rayon is mentioned.

[0007] On the other hand, the thing of one or more layers which has a heat-sealing layer as said covering material is mentioned, and the film thru/or sheet of non-permeability which consists of polyolefine system resin etc. typically is mentioned.

[0008] It is also possible to constitute so that the laminating of the cloth, such as the same nonwoven fabric as a porosity base material or textile fabrics, may be carried out to the film of the non-

permeability which consists of polyolefine system resin etc. in covering material and this case thru/or one side of a sheet, or a binder may be applied to it as an example and it may stick on underwear or the skin directly.

[0009] And generally, throwing in an aforementioned porosity base material and covering material for contents, such as an exoergic constituent and a deoxidant, superposition and between them, the periphery is heat sealed in said heat-sealing layer, and a heating element, a deoxidation object, etc. are manufactured continuously.

[0010]

[Problem(s) to be Solved by the Invention] However, in heat sealing supplying contents, such as an exoergic constituent, the contents concerned adhere to the heat-sealing section, an appearance worsens, or the seal reinforcement of the heat-sealing section falls further for impurity, and all pose a quality top problem. For this reason, if the shooter of contents moves up and down, and it guides and supplies so that the contents concerned cannot touch the heat-sealing section and the charge finishes so that the contents concerned cannot touch a direct base material, the flash of the charge of contents is constituted so that it may return to the upper part.

[0011] Thus, it does not happen by making the shooter of contents move up and down that impurity becomes faulty [ a seal ] owing to to a horizontal side and heat sealing by the side of vertical. however, in case contents are supplied, since a shooter enters to the remarkable depths, to the heat-sealing section by the side of vertical, it is alike occasionally that the force works in the direction (a of drawing 4 , b) which extends and pulls the heat-sealing section concerned in the width direction, and it has been carried out to it. consequently, the heat-sealing section by the side of vertical by the side of a porosity base material -- coming -- an alligator -- small -- \*\*\*\* fracture may occur

[0012] This fracture serves as a defect very serious as goods, and fatal. When becoming what and a consumer uses this defective product, contents leak, or superfluous air flows from a fracture part and various problems occur.

[0013] That is, if this is used for the skin to the underwear near direct or the skin, sticking it when this defective product is the heating element which enclosed for example, the exoergic constituent, as for close, air superfluous from said fracture part produces abnormality generation of heat locally intensively, or a burn is happened to the skin, or an exoergic constituent will leak and the various evils of soiling clothes will occur.

[0014] Therefore, it was the management point which calls this phenomenon from the former "the edge piece of heat-sealing \*\*\*\*", and requires caution most on a production process.

[0015] That this "edge piece of heat-sealing \*\*\*\*" should be prevented certainly, artificers pursued that cause thoroughly and came examination to that preventive measure in piles wholeheartedly.

[0016] By the way, it is known from the former that it is very important for the temperature control of a heating element to control the permeability of a porosity base material in the predetermined range (refer to JP,5-11985,B). This porosity base material is what has the structure more than the aeration layer for reinforcement, and two-layer [ possessing porous membrane ]. After said porous membrane mixes the minerals impalpable powder (minerals bulking agent) like detailed calcium-carbonate powder to polyolefine system resin (more than the minerals bulking agent 200 weight section to the pitch 100 weight section), Permeability is controlled by the predetermined range by fabricating the shape of a film, and in the shape of a sheet, extending this subsequently, forming micropore (an aperture being about several microns or less) around minerals impalpable powder, and controlling the magnitude of this micropore (crack).

[0017] From this process, since a minerals bulking agent is mixed to polyolefine system resin the 1st at a large quantity, I hear that tensile strength becomes very weak compared with the resin of a basis, and he can sometimes understand.

[0018] Moreover, since the direction of this drawing is in agreement with the travelling direction of the film of a manufacture machine thru/or a sheet the 2nd, the above-mentioned micropore (crack) has arisen in the travelling direction (the length direction), therefore fracture point ductility is [ a film thru/or the fracture point reinforcement of the width direction of a sheet, and yield point reinforcement are

further very weak, and ] dramatically large compared with the length direction.

[0019] For example, a table 1 shows the tensile strength of the porous membrane currently manufactured in the A company article and the B company article, compared with the length direction, both the fracture point reinforcement of the width direction and yield point reinforcement are dramatically weak, and A company and both B companies of things moreover been easy to be extended are accepted.

[0020]

[A table 1]

発熱体用多孔質膜の引張り強度

測定項目		単位	A社品	B社品
破断点強度	タテ	kgf/cm <sup>2</sup>	410	230
	ヨコ		60	30
破断点伸度	タテ	%	180	130
	ヨコ		530	460
降伏点強度	タテ	kgf/cm <sup>2</sup>	233	131
	ヨコ		41	21

[0021] Furthermore, although cloth, such as nonwoven fabrics, such as a polyamide, polyester, and rayon, and textile fabrics, is stretched and it is usually used in order for porous membrane to prevent [ 3rd ] the weakness of this tensile strength and to improve a skin feel Since it has controlled permeability by a porous film thru/or a porous sheet about several microns or less in the fixed range, porous membrane carries out perfect welding and adhesion to the lamination, and permeability can be intercepted or it cannot be made to vary originally.

[0022] Then, in stretching porous membrane and cloth, such as a nonwoven fabric and textile fabrics, embossing processing, and partial welding or the partial adhesion by gravure is performed, but in the lamination by welding partial in this way and adhesion, exfoliation of both bond strength is attained easily very weakly.

[0023] By the way, although the 2nd table shows the bond strength between the nonwoven fabric-porous membrane in two kinds of porosity base materials, an A company product and a B company product, as compared with the usual bond strength, a weak thing is accepted from the 2nd table.

[0024]

[A table 2]

発熱体用（不織布－多孔質膜）の接着強度

測定項目	単位	A社製品	B社製品
接着強度	gf/15mm	250	160

[0025] A shooter gets down [ 4th ] to the lower part especially, and since the temperature of the heat-sealing section of pressing porous membrane is close to 100 degrees C just behind heat sealing, tensile strength falls farther than the measured value in ordinary temperature.

[0026] It is admitted that the tensile strength of porous membrane is [ how ] weaker than the results from the 1st to the 4th of a more than, and reinforcement by a nonwoven fabric etc. is moreover also weak.

[0027] By the way, drawing 3 - drawing 5 are the explanatory views showing the condition that the contents 3, such as an exoergic constituent, are supplied, for example, while the porosity base material 1 (laminated film of nonwoven fabric 1a and porous membrane 1b) and covering material 2 are heat sealed.

[0028] As shown, for example in drawing 5, namely, the roll film 10 for porosity base material 1, The porosity base material 1 and covering material 2 let out from the roll film 20 for covering material 2,

respectively. The contents 3, such as an exoergic constituent of fixed capacity, are measured, and it is supplied between the porosity base material 1 and covering material 2 through the shooter 4 which moves up and down, and with the die roll 5, it is heat sealed and cut and bag-making is carried out to level and a perpendicular direction so that the perimeter of these contents 3 may be sealed.

[0029] Drawing 4 is the elements on larger scale of drawing 3, and an I-low Ha side is the horizontal sectional view of the porosity base material 1, covering material 2, and the vertical heat-sealing section. Conventionally said porosity base material 1 Cloth (aeration layer for reinforcement) 1a, such as a nonwoven fabric formed of a polyamide, polyester, or rayon, It consists of a laminated film with porous membrane 1b formed by polyolefine system resin, such as high pressure process low density polyethylene (LDPE) and straight chain-like low density polyethylene (LLDPE), etc. On the other hand, covering material 2 is set to reinforcement layer 2a which consists of a non-permeability polyethylene film from heat-sealing layer (film thru/or sheet of non-permeability) 2b of the non-permeability formed by the same polyolefine system resin as the above etc. [0030] In drawing 4, it is in the condition which the inside of porous membrane 1b in the porosity base material 1 and the Bth page are the insides of heat-sealing layer 2b in covering material 2, and all looked at the Ath page from the inside of a bag body. The point regularly on a par with the Ath page is an embossing point which welds cloth (aeration layer for reinforcement) 1a and porous membrane 1b, such as a nonwoven fabric.

[0031] When a shooter 4 gets down downward and the force of the direction of arrow-head a-b joins the Ath page and the Bth page now, respectively, since the Bth page is fully strong, especially it is the Ath page, the force is applied to the end of an embossing point and the heat-sealing section, and cloth 1a, such as a nonwoven fabric, is extended first.

[0032] Then, exfoliation with porous membrane 1b and cloth (aeration layer for reinforcement) 1a, such as a nonwoven fabric, arises in the 3rd aforementioned reason, and since porous membrane 1b has elongation and the dramatically smallest yield point reinforcement in the width direction at the 2nd aforementioned reason, exfoliation with porous membrane 1b and cloth (aeration layer for reinforcement) 1a, such as a nonwoven fabric, is accelerated, while the crack of the length direction connects, a stoma is made, and it grows up to be the break line. These situations are fully observable in performing a tensile test slowly. And after fracture reaches sample width-of-face 15 m/m, interlaminar peeling of cloth (aeration layer for reinforcement) 1a, such as a nonwoven fabric, and porous membrane 1b advances easily.

[0033] this invention persons acquired knowledge that the cause of "the edge piece of heat-sealing \*\*\*\*\*" will surely be removed, as a result of also reinforcing the mechanical strength of the width direction of porous membrane 1b, if the bond strength of cloth (aeration layer for reinforcement) 1a, such as a nonwoven fabric, and porous membrane 1b is strong by observing these phenomena on a target serially.

[0034] However, in parts other than the heat-sealing section, if it carries out and bond strength increases, rigidity comes out, the increase of the adhesion area of cloth 1a, such as a nonwoven fabric, and porous membrane 1b, and when a feel worsens or it is used as a heating element, fluctuation will be caused to the permeability of the porosity base material 1, and the quality of a heating element etc. will get extremely bad.

[0035] Therefore, when heat sealing, while preventing certainly fracture of porous membrane 1b of heat-sealing \*\*\*\*\* to generate, in order to have maintained firm seal nature and to have prevented generating of the leakage of the contents 3 in use, a low-temperature burn, dirt of clothes, etc., etc., knowledge that only the heat-sealing section needs to increase the bond strength of cloth (aeration layer for reinforcement) 1a, such as a nonwoven fabric, and porous membrane 1b at the time of heat sealing was also acquired.

[0036] In this invention heat sealing the porosity bag body which encloses contents, such as an exoergic constituent, in a heat-sealing layer, and manufacturing it When formed of the single site catalyst with the uniform property of the active spot with a polymerization or the polyethylene by which copolymerization was carried out, said heat-sealing layer "The edge piece of heat-sealing \*\*\*\*\*" generated in case it heat seals by supplying contents, such as an exoergic constituent, in a porosity bag

body, That is, while preventing fracture of a sealing layer certainly, firm seal nature is maintained. Generating of the leakage of contents in use, a low-temperature burn, dirt of clothes, etc., etc. is prevented, and it is safe and aims at offering the very high porosity bag body, the heating element using this, the deoxidation object, the deodorization object, the maturation object, the dry material, dehumidification material, and scent bag of dependability.

[0037]

[Means for Solving the Problem] this invention persons maintained firm seal nature while preventing certainly "the edge piece of heat-sealing \*\*\*\* generated in case it heat seals", i.e., fracture of a sealing layer, they prevented generating of the leakage of contents in use, a low-temperature burn, dirt of clothes, etc., etc., were safe and came examination in piles wholeheartedly about the very reliable porosity bag body.

[0038] Consequently, in having heat sealed a porosity base material and covering material by superposition, having heat sealed that periphery section in the heat-sealing layer, and manufacturing a porosity bag body, it was requirements with indispensable for preventing "the edge piece of heat-sealing \*\*\*\*" strengthening the bond strength of cloth, such as a nonwoven fabric in the heat-sealing section by the side of vertical, and porous membrane, and in order to have secured this requirement, knowledge that it has meaning with an important heat-sealing layer was acquired.

[0039] Then, the place where this invention persons considered wholeheartedly the heat-sealing experiment by the side of vertical through various heat-sealing layers as mentioned above, If the layer which the property of the active spot announced recently becomes from a polymerization or the polyethylene by which copolymerization was carried out according to a uniform single site catalyst is used In the case of heat sealing, a shooter gets down downward and the force of the direction of arrow-head a joins the Ath page. Before exfoliation with porous membrane and cloth, such as a nonwoven fabric, occurs, said heat-sealing layer fuses promptly, and since this melting resin has good wettability with cloth, such as thermal conductivity, flow nature, and also a nonwoven fabric, moreover The melting resin (melting resin of a heat-sealing layer) concerned permeates into cloth, such as a nonwoven fabric, from the melting part of porous membrane, and discovers the anchor effect of a wide sense. That is, as a result of melting resin's getting used well and association with cloth, such as a nonwoven fabric, becoming firm at cloth, such as a nonwoven fabric, knowledge that "the edge piece of heat-sealing \*\*\*\*" is prevented was acquired.

[0040] Moreover, this invention persons also acquired the knowledge that it was very useful when preventing "the edge piece of heat-sealing \*\*\*\*" generated in case what has the following properties as a heat-sealing layer in the layer which consists of a polymerization or polyethylene by which copolymerization was carried out according to a single site catalyst with the uniform property of the active spot heat seals.

[0041] (1) The heat capacity of a sealant is that a consistency is small small.

(2) About the melting point, a fusion field should be in a low melting point side from a DSC melting point peak.

(3) Melt viscosity is low to some extent, namely, MFR is large to some extent.

(4) Molecular weight distribution are sharp and there are less large molecular weight distribution than average molecular weight.

(5) There is compatibility with the polyolefine which builds porous membrane, and it is few polar molecule systems.

(6) \*\*\*\* with the fiber which constitutes cloth, such as porous membrane and a nonwoven fabric, is good, therefore thermal conductivity is good, melting resin permeates to the fiber of cloth, such as a nonwoven fabric, as a result, and the anchor effect of a wide sense is discovered, namely, melting resin gets used to cloth, such as a nonwoven fabric, well, and association with cloth, such as a nonwoven fabric, be firm.

[0042] That is, in order for an edge piece to carry out for not happening by heat-sealing \*\*\*\*, it is that exfoliation of cloth, such as a nonwoven fabric, and porous membrane does not take place by heat-sealing \*\*\*\*, porous membrane is not extended, and the crack of the length direction does not grow up

to be a stoma selectively. In this case, if the heat-sealing section is cut and the interior is observed, it will be admitted easily that melting resin permeates cloth, such as a nonwoven fabric, well, and is hardening and uniting with it by heat-sealing \*\*\*\*. And when the heat-sealing section was forcibly pulled in the direction of arrow-head a-b, respectively, cohesive failure occurred in cloth, such as a nonwoven fabric, and interlaminar peeling of cloth, such as a nonwoven fabric, and porous membrane also acquired knowledge that it does not generate.

[0043] Namely, in order to complete the porosity bag body concerning this invention based on said knowledge and to attain said object In the bag body of the porosity which heat seals the porosity base material more than the aeration layer for reinforcement, and two-layer [ possessing porous membrane ], and the covering material of one or more layers which has a heat-sealing layer by superposition, and comes to heat seal the periphery section in said heat-sealing layer A heat-sealing layer is characterized by forming the property of the active spot of the uniform single site catalyst with a polymerization or the polyethylene by which copolymerization was carried out.

[0044] It consists of a thing of the shape of the shape of a film by which the laminating was carried out, and a sheet more than the aeration layer for reinforcement, and two-layer [ possessing porous membrane ] as a porosity base material used by this invention, and what is used for a heating element, a deoxidation object, a deodorization object, a maturation object, a dry material, dehumidification material, and a scent bag, respectively is mentioned conventionally.

[0045] Although it is not limited especially if it is the film thru/or sheet of permeability which a laminating is carried out to porous membrane as said aeration layer for reinforcement, and improves the reinforcement of the porous membrane concerned, specifically, a punching film thru/or a sheet, etc. made of cloth, such as a nonwoven fabric formed with the natural fiber or the artificial fiber, textile fabrics, knitting, or textiles, paper, the foaming film of permeability or a sheet, and synthetic resin is mentioned.

[0046] As said artificial fiber, semi-synthetic fibers, such as synthetic fibers, such as regenerated fibers, such as viscose rayon, Bemberg, and those staple fibers, a polyamide, polyester, an acrylic, Vinylon, saran, and polypropylene, acetate, its staple fiber, and Chinon, are mentioned, for example.

[0047] Moreover, as porous membrane, the porous film thru/or porous sheet formed by polyolefine system resin, such as various kinds, synthetic resin, and high pressure process low density polyethylene (LDPE) currently especially used abundantly from the former, straight chain-like low density polyethylene (LLDPE), etc. is mentioned, and the porous film thru/or porous sheet specifically formed by the polyolefine system resin used in the field of the heating element etc. from the former is mentioned.

[0048] In the porosity base material used by this invention, the laminated film thru/or sheets more than two-layer, such as three-layer type a laminated film thru/or a sheet, etc. which pasted [ heat-] up or welded [ heat-] the aeration layer for reinforcement selectively, are mentioned to both sides of the laminated film of the two-layer type which pasted [ heat-] up or welded [ heat-] selectively the aforementioned aeration layer for reinforcement and porous membrane thru/or a sheet, and porous membrane.

[0049] Although this porosity base material has the need of having permeability (moisture permeability), that moisture vapor transmission especially changes greatly with applications and it is not limited Generally that for moisture vapor transmission to be 50g [ /m ] 2-24 or more hrs by the RISSHI method (Lyssy law L80- 4000H mold), and what is necessary is just the range from which contents do not leak while in use It is desirable that moisture vapor transmission carries out within the limits of 50-10,000 g/m<sup>2</sup> and 24hr by the RISSHI method (Lyssy law L80- 4000H mold) especially.

[0050] Since there is a possibility that this moisture vapor transmission of evapotranspiration effectiveness [ calorific value, the deoxidation / deodorization effectiveness, maturation and the dehumidification effectiveness, or ] of perfume may decrease in less than 2-24 hr(s) of 50 g/m, and the necessary effectiveness according to an application may not be acquired, it is not desirable. On the other hand, since exoergic temperature becomes high, a problem cannot arise at safety or exoergic time amount cannot become short, or the deoxidation / deodorization effectiveness, maturation and the



dehumidification effectiveness, or the evapotranspiration effectiveness of perfume will become short, it will become impossible to desire effectiveness over a long period of time and a possibility that contents may leak will arise if 10,000 g/m<sup>2</sup> and 24hr are exceeded, it is not desirable. Therefore, since safe and sufficient effectiveness is acquired over long duration when the moisture vapor transmission of a porosity base material carries out within the limits of 100-7,500 g/m<sup>2</sup> and 24hr, it is especially desirable.

[0051] By the way, the RISSHI method (Lyssy law) is an approach based on the industrial plan of every country in the world, for example, is JIS. In Z0208 Since it is determined that it maintains at the temperature of 40 degrees C and 90% of relative humidity differences RH, with this equipment A measurement sample is inserted in the interface of the lower chamber which is in the condition of relative humidity 100%, and the upper chamber which installed the humidity sensor of high sensitivity. Maintain the relative humidity of an upper chamber with a humidity sensor at RH (100%-90%) 10%, and it centers on this. It is the approach of asking for transmittance, by comparing with the result of the calibration which measured time amount (several seconds) required for humidity to increase to about 11% from about \*\*1% of width of face (\*\*RH), i.e., about 9%, and was beforehand performed on the same conditions using the correlation sample of transmittance known.

[0052] And in this invention, a heat-sealing layer considers as the description at the point that the property of the active spot is formed of the uniform single site catalyst with a polymerization or the polyethylene by which copolymerization was carried out, in the bag body of the porosity which heat seals said porosity base material and the covering material of one or more layers which has a heat-sealing layer by superposition, and comes to heat seal the periphery section in said heat-sealing layer.

[0053] That is, in this invention, the thing of the laminating type which consists of more than two-layer [ possessing the thing or this kind, heat-sealing layer, and reinforcement layer of the one layer type to which the property of the active spot consists only of a heat-sealing layer formed of the uniform single site catalyst with a polymerization or the polyethylene by which copolymerization was carried out as covering material ] is mentioned.

[0054] That is, it is what is characterized by forming the property of the active spot of the single site catalyst with a uniform heat-sealing layer in this invention with a polymerization or the polyethylene by which copolymerization was carried out. This single site catalyst is especially a metallocene catalyst. Moreover, a heat-sealing layer with a metallocene catalyst A polymerization or the polyethylene by which copolymerization was carried out, Or the thing in which the heat-sealing layer is formed with the polyethylene by which copolymerization was carried out to the polymerization or the alpha olefin with the metallocene catalyst The above (1) Since "the edge piece of heat-sealing \*\*\*\*\*" generated in case it heat seals by obtaining the heat-sealing layer made from polyethylene which has the property of - (6) can be prevented, it is desirable.

[0055] It sets according to this kind and a single site catalyst in a polymerization or the heat-sealing layer made from polyethylene by which copolymerization was carried out. That whose MFRs (melt flow rate) of the polyethylene concerned are 20g / less than 10 minutes at 0.5g / 10 minutes or more is desirable. When MFR is too as small as 0.5g / less than 10 minutes, melt viscosity is too large and the penetrability to aeration layers for reinforcement, such as a nonwoven fabric, is bad. Since reinforcement will become weak if it exceeds 20g / 10 minutes while there is a possibility that "the edge piece of heat-sealing \*\*\*\*\*" at the time of heat sealing by not obtaining desired bond strength may be generated All have that much more desirable especially [ not being desirable, therefore ] whose MFRs (melt flow rate) of polyethylene are 15g / less than 10 minutes at 3g / 10 minutes or more.

[0056] In this invention a polymerization or the consistency of polyethylene by which copolymerization was carried out with a metallocene catalyst Three or less [ moreover, / 0.95g //cm ] A three or less 0.93 g/cm thing and the thing of the range of further 0.88 - 0.93 g/cm<sup>3</sup> are especially desirable. If a consistency exceeds 0.95 g/cm<sup>3</sup>, the bond strength of the aeration layer for reinforcement and porous membrane will become [ heat-sealing reinforcement ] weak weakly, and the aeration layer for reinforcement and porous membrane will exfoliate in the case of heat sealing. Since there is a possibility that "the edge piece of heat-sealing \*\*\*\*\*" at the time of heat sealing may be generated, it is not

desirable.

[0057] Furthermore, since there is a possibility that "the edge piece of heat-sealing \*\*\*\*\*" at the time of heat sealing by the aeration layer for reinforcement and porous membrane exfoliating may be generated in case it is heat sealing as a result of are weak and heat-sealing reinforcement's becoming [ the bond strength of the aeration layer for reinforcement, and porous membrane ] weak when it is desirable for a polymerization or the DSC melting point of polyethylene by which copolymerization was carried out to be 125 degrees C or less and the DSC melting point exceeds 125 degrees C according to a single site catalyst in this invention, it is not desirable.

[0058] [ using what is formed from the above thing with a polymerization or the polyethylene by which copolymerization was carried out of the single site catalyst with the property of the active spot uniform as a heat-sealing layer ] MFR (melt flow rate) of this polyethylene in 0.5g / 10 minutes or more 20g / less than 10 minutes, MFRs (melt flow rate) of polyethylene are 15g / less than 10 minutes preferably at 3g / 10 minutes or more. The consistency of this polyethylene especially three or less [ 0.95g //cm ] Moreover, the thing of three or less [ 0.93g //cm ], Come out and it is. furthermore, the thing of the range of 3 is desirable cm 0.88-0.93g /, and moreover the DSC melting point of polyethylene is 125 degrees C or less -- \*\* -- better -- with such a heat-sealing layer of conditions If the porosity base material which consists of an aeration layer for reinforcement and porous membrane is heat sealed As a result of these three persons' welding in one in the heat-sealing section, it compares, when EVA, EMMA, LOPE, etc. are used for a heat-sealing layer like before. Heat-sealing strength was strong, and hot tuck nature was also good, and it was admitted that "the edge piece of heat-sealing \*\*\*\*\*" did not happen at all.

[0059] by the way, a metallocene catalyst -- 1980 -- Professor Kaminsky of the Hamburg university -- high -- it is the catalyst discovered as an activity catalyst for polyethylene, and consists of a main catalyst which consists of a metallocene compound represented by zirconocene dichloride, and a co-catalyst represented by methylalumoxane.

[0060] Although a laminated film thru/or a sheet, etc. of a type more than two-layer [ to which heat adhesion or heat welding of an aforementioned heat-sealing layer and an aforementioned reinforcement layer was carried out selectively or extensively ] is mentioned in the covering material used by this invention Although it is not limited especially if it is the thing of the shape of the shape of a film which a laminating is carried out to a heat-sealing layer as said reinforcement layer, and improves the reinforcement of the heat-sealing layer concerned, and a sheet, specifically For example, the film thru/or sheet of non-permeability besides the same thing as the above-mentioned aeration layer for reinforcement is mentioned.

[0061] In this invention, although it differs greatly and is not especially limited by the application as thickness of the aforementioned porosity base material and covering material, it requires having the reinforcement of extent which is not damaged during an activity and handling. Specifically, it is desirable to consider as the range of 10-5000 micrometers.

[0062] When the thickness of a porosity base material and covering material is less than 10 micrometers, in no longer obtaining a required mechanical strength, since there is a possibility that it may become difficult to make thickness into homogeneity, it is desirable, and since flexibility falls even if it is foam, such as sponge, when the thickness of a porosity base material and covering material exceeds 5000 micrometers, or the thickness of the whole porosity bag body becomes thick too much and handling nature and a feeling of an activity worsen on the other hand, it is not desirable.

[0063] Therefore, while a necessary mechanical strength is obtained in the thickness of a porosity base material and covering material the range of 12-2500 micrometers, and by considering as the range of 15-1000 micrometers still more preferably, as a result of acquiring necessary flexibility, since handling nature and a feeling of an activity become good, it is especially desirable.

[0064] In the porosity bag body concerning this invention heat sealing the porosity bag body which has the above-mentioned structure and encloses contents, such as an exoergic constituent, in a heat-sealing layer, and manufacturing it When formed of the single site catalyst with the uniform property of the active spot with a polymerization or the polyethylene by which copolymerization was carried out, said

heat-sealing layer "The edge piece of heat-sealing \*\*\*\*\*" generated in case it heat seals by supplying contents, such as an exoergic constituent, in a porosity bag body, That is, while preventing fracture of a sealing layer certainly, firm seal nature is maintained. The porosity bag body which can prevent generating of the leakage of contents in use, a low-temperature burn, dirt of clothes, etc., etc. is obtained by the same approach as usual. And the heating element using this porosity bag body, a deoxidation object, a deodorization object, a maturation object, a dry material, dehumidification material, and a scent bag are safe very much, and expensive. [ reach / dependability / to an extreme and ]

[0065] That is, as a heating element concerning this invention, in order to attain said object, into this porosity bag body, it is characterized by enclosing the exoergic constituent which reacts with the oxygen in air and generates heat using the porosity bag body concerning this invention.

[0066] In this case, the heating element which it consists of matter which reacts with the oxygen in air as an exoergic constituent used by this invention, and generates heat, what is used for disposable Cairo, a warm temperature cypridium agent, etc. is specifically mentioned, and the well-known thing it is [ a thing ] mainly concerned with the metal powder which is pyrogen, especially iron powder is conventionally mentioned, and is applied to this invention is manufactured by the same equipment and same approach as usual.

[0067] Moreover, as a deoxidation object concerning this invention, in order to attain said object, into this porosity bag body, it is characterized by enclosing the oxygen in air, and the deoxidant which reacts using the porosity bag body concerning this invention.

[0068] It consists of a constituent which uses the oxygen in air, and the matter of reducibility which reacts as a principal component as a deoxidant used by this invention. Specifically The matter of the reducibility which is put in in the container of various food and absorbs the oxygen in the container concerned etc. is mentioned. For example, specifically For example, the metal powder which is a reducing substance, for example, iron powder, and a metal salt, for example, ferrous chloride, Or the deoxidation object which reducibility organic compounds, such as L-ascorbic acid, and the well-known thing it is [ a thing ] mainly further concerned with the mixture of these reducibility matter are conventionally mentioned, and is applied to this invention is manufactured by the same equipment and same approach as usual.

[0069] Furthermore, as a deodorization object concerning this invention, in order to attain said object, into this porosity bag body, it is characterized by enclosing the deodorant which adsorbs a malodorous substance using the porosity bag body concerning this invention.

[0070] As a deodorant used by this invention, the malodorous substance in air is adsorbed or the matter which oxidizes and carries out non-bromination of the malodorous substance in air is mentioned. Specifically For example, the deodorization object which well-known things, such as matter which oxidizes and carries out non-bromination of the malodorous substances, such as the others and the silver oxide which are the ceramics which discovers activated carbon, a zeolite, and also a deodorization operation, and peroxidation silver, are conventionally mentioned, and is applied to this invention is manufactured by the same equipment and same approach as usual.

[0071] As a maturation object concerning this invention, in order to attain said object, it is characterized by enclosing the maturation constituent which reacts with the oxygen in air into this porosity bag body, and generates ethylene gas using the porosity bag body concerning this invention.

[0072] The maturation object which what reacts with the oxygen in air and generates ethylene gas as a maturation constituent used by this invention is mentioned, and the maturation constituent indicated by JP,6-39413,B and JP,8-103212,A is specifically mentioned, and is applied to this invention is manufactured by the same equipment and same approach as usual.

[0073] Moreover, as a dry material concerning this invention, in order to attain said object, into this porosity bag body, it is characterized by enclosing the drying agent which absorbs moisture using the porosity bag body concerning this invention.

[0074] The dry material which it is not limited especially if it prevents that food becomes damp as a drying agent used by this invention or is used for desiccation of food, and well-known things, such as deliquescent matter, such as silica gel, calcined lime, and a magnesium chloride, are specifically

conventionally mentioned, and is applied to this invention is manufactured by the same equipment and same approach as usual.

[0075] Furthermore, as dehumidification material concerning this invention, in order to attain said object, into this porosity bag body, it is characterized by enclosing the desiccant which absorbs the moisture in air using the porosity bag body concerning this invention.

[0076] The dehumidification material which it is not limited especially if it puts on the interior, such as furniture, such as a wardrobe, a closet, and a shoe cupboard, and the moisture of these interior is removed as a dehumidification agent used by this invention, and well-known things, such as deliquescent matter, such as a calcium chloride, are specifically conventionally mentioned, and starts this invention is manufactured by the same equipment and same approach as usual.

[0077] As a scent bag concerning this invention, in order to attain said object, it is characterized by enclosing the perfume of evapotranspiration nature in this porosity bag body using the porosity bag body concerning this invention.

[0078] The scent bag which it is not limited especially if it transpires and aroma is emitted as perfume used by this invention, and well-known sandalwoods, such as synthetic perfume, such as natural aromatic, such as vegetable perfume and animal perfume, terpene system synthetic perfume, aromatic series system synthetic perfume, or aliphatic series system synthetic perfume, moshus, \*\*\*\* and others, etc. are specifically conventionally mentioned, and is applied to this invention is manufactured by the same equipment and same approach as usual.

[0079]

[Example] Hereafter, although this invention is explained to a detail based on an example, this invention is not limited to these examples at all.

[0080] As shown in example 1 drawing 1 and drawing 5 , as a porosity base material 1 While leaving the stoma aeration section of surface ratio for nonwoven fabric (aeration layer for reinforcement) 1a made from nylon span bond continuous glass fiber with a basis weight of 40g, and porous membrane 1b made from polyethylene with a thickness of 30 micrometers 30%, performing light heat welding and stretching The laminated film obtained by performing embossing of 1mm spacing and carrying out heat weld selectively from said nonwoven fabric (aeration layer for reinforcement) 1a side was used.

[0081] On the other hand, as shown in drawing 1 and drawing 5 , as covering material 2, the laminated film which carried out the laminating of heat-sealing layer (MFR11g / 10-minute, consistency 0.905 g/cm<sup>3</sup>, DSC melting point of 102 degrees C) 2b with a thickness of 20 micrometers manufactured with the metallocene catalyst made from a polyethylene copolymer and the reinforcement layer 2a which is 60 micrometers in thickness and was moreover formed with the film made from straight chain-like low density polyethylene of non-permeability was used.

[0082] As shown in drawing 1 and drawing 5 , it hits letting out the roll film 10 for said porosity base material 1, and the roll film 20 for said covering material 2, respectively. It supplies between the heat die rolls of two the rate for 4.0m/, respectively. Moreover, the temperature of the heat-sealing section of the die rolls 5 and 5 the porosity base material 1 side 141\*\*0.5 degrees C, The pressure between 160\*\*0.5 degrees C and the die roll heat-sealing section of the temperature of the heat-sealing section of the die roll 5 by the side of covering material 2 is 6.5kg/cm<sup>2</sup>. heat-sealing H Piled up aforementioned porous membrane 1b page and an aforementioned heat-sealing layer 2b side, it was made to run perpendicularly the film concerned, and the periphery enclosure of exoergic constituent 3a was carried out.

[0083] In this case, 13.5cm of perpendicular directions of bag-making, 9.5cm of horizontal directions, and the seal width of one bag of the configuration of the heat-sealing section of the die rolls 5 and 5 are 6mm of perpendicular directions, and 8mm of horizontal directions. Bags were manufactured heat sealing by supplying concerned shooters [ 4-50g ] exoergic constituent 3a, when the shooter 4 which moves up and down is formed above two die rolls 5 and 5 and this shooter 4 reaches the lower part, as shown in drawing 5 , and the heating element was manufactured.

[0084] In order to measure the seal reinforcement [by the side of vertical] the long side (13.5cm) side of this bag body, the sample of 15 m/m width was taken, and T friction test of the porosity base material 1 and covering material 2 was performed for this at the tension rate for 500mm/under the room

temperature. The test result is shown in a table 3. In addition, in drawing 1 , 6 is a binder layer.

[0085]

[A table 3]

	ヒート・シール層	M F R g/10分	密 度	DSC融点 ℃	シール強度 15mm幅
実施例1	メタロセン系	1.1	0.905	102	1440
実施例2	メタロセン系	4	0.915	108	1390
実施例3	メタロセン系	1.5	0.92	115	1320
実施例4	メタロセン系	2	0.925	120	1350
比較例1	EMMA	--	--	--	660

[0086] As shown in example 2 drawing 2 , it replaces with the thing of an example 1 as heat-sealing layer 2b. Heat-sealing layer (20 micrometers in thickness) 2b of ethylene and the product made from an alpha olefin copolymer which has physical properties with a consistency [ 0.915 ] and a DSC melting point of 108 degrees C, and was manufactured with the metallocene catalyst is used for MFR4g / 10 minutes. As covering material 2 Except having used what carried out the laminating of the reinforcement layer 2a made from nylon span bond continuous glass fiber with a basis weight of 40g to said heat-sealing layer 2b through reinforcement layer 2c formed with the film made from straight chain-like low density polyethylene of non-permeability by 60 micrometers in thickness, bags were manufactured like the example 1 and the heating element was manufactured.

[0087] Moreover, like the example 1, in order to measure the seal reinforcement [by the side of vertical] the long side (13.5cm) side of a bag body, the sample of 15 m/m width was taken, and T friction test of the porosity base material 1 and covering material 2 was performed for this at the tension rate for 500mm/under the room temperature. The test result is shown in a table 3.

[0088] Except having used heat-sealing layer (20 micrometers in thickness) 2b of ethylene and the product made from an alpha olefin copolymer which replaces with the thing of an example 2, and has physical properties with a consistency [ 0.92 ] and a DSC melting point of 115 degrees C as example 3 heat-sealing layer 2b for MFR1.5g / 10 minutes, and was manufactured with the metallocene catalyst, bags were manufactured like the example 2 and the heating element 11 shown in drawing 2 was manufactured.

[0089] Moreover, like the example 1, in order to measure the seal reinforcement [by the side of vertical] the long side (13.5cm) side of a bag body, the sample of 15 m/m width was taken, and T friction test of the porosity base material 1 and covering material 2 was performed for this at the tension rate for 500mm/under the room temperature. The test result is shown in a table 3.

[0090] Except having used heat-sealing layer (20 micrometers in thickness) 2b of ethylene and the product made from an alpha olefin copolymer which replaces with the thing of an example 2, and has physical properties with a consistency [ 0.925 ] and a DSC melting point of 120 degrees C as example 4 heat-sealing layer 2b for MFR2g / 10 minutes, and was manufactured with the metallocene catalyst, bags were manufactured like the example 2 and the heating element 11 shown in drawing 2 was manufactured.

[0091] Moreover, like the example 1, in order to measure the seal reinforcement [by the side of vertical] the long side (13.5cm) side of a bag body, the sample of 15 m/m width was taken, and T friction test of the porosity base material 1 and covering material 2 was performed for this at the tension rate for 500mm/under the room temperature. The test result is shown in a table 3.

[0092] By the way, after carrying out Peel exfoliation of the sample of examples 1-4, respectively, when the heat-sealing part was observed with the naked eye, each of the heat-sealing parts showed the cohesive failure within a nonwoven fabric, and it was admitted that the porosity base material 1 and covering material 2 had joined in one.

[0093] As example heat-sealing layer 2b of a comparison, it replaced with the thing of an example 1,

and except having used heat-sealing layer (29 micrometers in thickness) 2b made from an ethylene methylmethacrylate understood that heat-sealing nature is most excellent as conventional heat-sealing layer 2b, bags were manufactured like the example 1 and the heating element 11 was manufactured.

[0094] Moreover, like the example 1, in order to measure the seal reinforcement [by the side of vertical] the long side (13.5cm) side of a bag body, the sample of 15 m/m width was taken, and T friction test of the porosity base material 1 and covering material 2 was performed for this at the tension rate for 500mm/under the room temperature. The test result is shown in a table 3.

[0095] By the way, after carrying out Peel exfoliation of the sample of the example of a comparison, when the heat-sealing part was observed with the naked eye, interlaminar peeling is shown between porous membrane 1b and heat-sealing layer 2b, and it was admitted that the porosity base material 1 and covering material 2 had not joined in one.

[0096] By the way, in examples 1-4, in manufacturing a heating element 11, travel-speed the amount of/of 4.0m was made to go up to a part for 5.2m/, operation was performed for 40 minutes, and in a bag-making article, when edge piece test of total and abnormality inspection of seal width were conducted, as for abnormalities, such as reduction of "the edge piece of seal \*\*\*\*", and seal width, the total of all examples was not accepted at all.

[0097] On the other hand, it was admitted like each example about the example of a comparison by making travel-speed the amount of/of 4.0m go up to a part for 5.2m/, and performing operation for 40 minutes that reduction of seal width had produced [ "the edge piece of seal \*\*\*\*" ] the bag-making article to a \*\*\*\* and 11% 5% when edge piece test of total and abnormality inspection of seal width are conducted.

[0098]

[Effect of the Invention] The heat-sealing layer of the porosity bag body which has said configuration and encloses contents, such as an exoergic constituent, the porosity bag body concerning this invention Since it is formed of the single site catalyst with the uniform property of the active spot with a polymerization or the polyethylene by which copolymerization was carried out, contents, such as an exoergic constituent, are supplied in a porosity bag body. fracture of "the edge piece of heat-sealing \*\*\*\* generated in case it heat seals", i.e., a sealing layer,, while splitting and being able to prevent generating of a breakthrough certainly further In maintaining firm seal nature and the yield's improving remarkably moreover, as a result of being able to prevent generating of the leakage of contents in use, a low-temperature burn, dirt of clothes, etc., etc., it is safe and has very reliable effectiveness.

[0099] Since the exoergic constituent which reacts with the oxygen in air and generates heat is enclosed in this porosity bag body using the porosity bag body concerning this invention, the heating element concerning this invention throws in an exoergic constituent in a porosity bag body. fracture of "the edge piece of heat-sealing \*\*\*\* generated in case it heat seals", i.e., a sealing layer,, while splitting and being able to prevent generating of a breakthrough certainly further In maintaining firm seal nature and the yield's improving remarkably moreover, as a result of being able to prevent generating of the leakage of an exoergic constituent in use, a low-temperature burn, dirt of clothes, etc., etc., commodity value is improved, or it is safe and has very reliable effectiveness.

[0100] Moreover, since the oxygen in air and the deoxidant which reacts are enclosed in this porosity bag body as a deoxidation object concerning this invention using the porosity bag body concerning this invention, a deoxidant is thrown in in a porosity bag body. fracture of "the edge piece of heat-sealing \*\*\*\* generated in case it heat seals", i.e., a sealing layer,, while splitting and being able to prevent generating of a breakthrough certainly further As a result of preventing the leakage of a deoxidant in use in maintaining firm seal nature and the yield's improving remarkably moreover, and being able to prevent generating of dirt of food etc., commodity value is improved, or it is safe and has very reliable effectiveness.

[0101] Furthermore, since the deodorant which adsorbs a malodorous substance is enclosed in this porosity bag body as a deodorization object concerning this invention using the porosity bag body concerning this invention, a deodorant is thrown in in a porosity bag body. fracture of "the edge piece of heat-sealing \*\*\*\* generated in case it heat seals", i.e., a sealing layer,, while splitting and being able to

prevent generating of a breakthrough certainly further In maintaining firm seal nature and the yield's improving remarkably moreover, as a result of being able to prevent generating of dirt of the interior, such as leakage of a deodorant in use, and a refrigerator, etc., commodity value is improved, or it is safe and has very reliable effectiveness.

[0102] Since the maturation constituent which reacts with the oxygen in air into this porosity bag body as a maturation object concerning this invention using the porosity bag body concerning this invention, and generates ethylene gas is enclosed, a maturation constituent is thrown in in a porosity bag body. fracture of "the edge piece of heat-sealing \*\*\*\* generated in case it heat seals", i.e., a sealing layer,, while splitting and being able to prevent generating of a breakthrough certainly further In maintaining firm seal nature and the yield's improving remarkably moreover, as a result of being able to prevent generating of the leakage of a maturation constituent in use, dirt of garden stuff, etc., commodity value is improved, or it is safe and has very reliable effectiveness.

[0103] Moreover, since the drying agent which absorbs moisture is enclosed in this porosity bag body as a dry material concerning this invention using the porosity bag body concerning this invention, a drying agent is thrown in in a porosity bag body. fracture of "the edge piece of heat-sealing \*\*\*\* generated in case it heat seals", i.e., a sealing layer,, while splitting and being able to prevent generating of a breakthrough certainly further In maintaining firm seal nature and the yield's improving remarkably moreover, as a result of being able to prevent generating of dirt of the leakage of a drying agent in use, food, etc., commodity value is improved, or it is safe and has very reliable effectiveness.

[0104] Furthermore, since the desiccant which absorbs the moisture in air is enclosed in this porosity bag body as dehumidification material concerning this invention using the porosity bag body concerning this invention, a desiccant is supplied in a porosity bag body. fracture of "the edge piece of heat-sealing \*\*\*\* generated in case it heat seals", i.e., a sealing layer,, while splitting and being able to prevent generating of a breakthrough certainly further In maintaining firm seal nature and the yield's improving remarkably moreover, as a result of being able to prevent generating of dirt of the interior, such as furniture, such as leakage of a desiccant in use, and a wardrobe, a closet, and a shoe cupboard, etc., commodity value is improved, or it is safe and has very reliable effectiveness.

[0105] Since the perfume of evapotranspiration nature is enclosed in this porosity bag body as a scent bag concerning this invention using the porosity bag body concerning this invention, perfume is thrown in in a porosity bag body. fracture of "the edge piece of heat-sealing \*\*\*\* generated in case it heat seals", i.e., a sealing layer,, while splitting and being able to prevent generating of a breakthrough certainly further In maintaining firm seal nature and the yield's improving remarkably moreover, as a result of being able to prevent generating of the leakage of perfume in use, dirt of clothes, etc., commodity value is improved, or it is safe and has very reliable effectiveness.

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[Translation done.]

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## CLAIMS

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### [Claim(s)]

[Claim 1] The porosity bag body with which a heat-sealing layer is characterized by being formed of the single site catalyst with the uniform property of the active spot with a polymerization or the polyethylene by which copolymerization was carried out in the bag body of the porosity which heat seals the porosity base material more than the aeration layer for reinforcement, and two-layer

[ possessing porous membrane ], and the covering material of one or more layers which has a heat-sealing layer by superposition, and comes to heat seal the periphery section in said heat-sealing layer.

[Claim 2] The porosity bag body according to claim 1 whose aeration layer for reinforcement is cloth, such as textile fabrics, a nonwoven fabric, knitting, or textiles, paper, or a punching film sheet.

[Claim 3] The porosity bag body according to claim 1 or 2 in which a single site catalyst is a metaruthenium catalyst, and the heat-sealing layer is moreover formed with the metallocene catalyst with a polymerization or the polyethylene by which copolymerization was carried out.

[Claim 4] A porosity bag body given in claim 1 in which the heat-sealing layer is formed with the polyethylene by which copolymerization was carried out to the polymerization or the alpha olefin with the metallocene catalyst thru/or any 1 term of 3.

[Claim 5] A porosity bag body given in claim 1 thru/or any 1 term of 4 which consists of more than two-layer [ in which covering material possesses a heat-sealing layer and a reinforcement layer ].

[Claim 6] The porosity bag body according to claim 5 whose reinforcement layer is the film thru/or sheet of cloth, such as textile fabrics, a nonwoven fabric, knitting, or textiles, paper, a punching film sheet, or non-permeability.

[Claim 7] A porosity bag body given in claim 1 a polymerization or whose MFR (melt flow rate) of polyethylene by which copolymerization was carried out is 20g / less than 10 minutes by the single site catalyst at 0.5g / 10 minutes or more thru/or any 1 term of 6.

[Claim 8] A porosity bag body given in claim 1 a polymerization or whose consistency of polyethylene by which copolymerization was carried out is three or less [ 0.95g /cm ] by the single site catalyst thru/or any 1 term of 7.

[Claim 9] A porosity bag body given in claim 1 a polymerization or whose DSC melting point of polyethylene by which copolymerization was carried out is 125 degrees C or less by the single site catalyst thru/or any 1 term of 8.

[Claim 10] The heating element characterized by enclosing the exoergic constituent which reacts with the oxygen in air and generates heat in the porosity bag body indicated by claim 1 thru/or any 1 term of 9.

[Claim 11] The deoxidation object characterized by enclosing the oxygen in air, and the deoxidant which reacts in the porosity bag body indicated by claim 1 thru/or any 1 term of 9.

[Claim 12] The deodorization object characterized by enclosing the deodorant which adsorbs a malodorous substance in the porosity bag body indicated by claim 1 thru/or any 1 term of 9.

[Claim 13] The maturation object characterized by enclosing the maturation constituent which reacts with the oxygen in air into the porosity bag body indicated by claim 1 thru/or any 1 term of 9, and



generates ethylene gas.

[Claim 14] The dry material characterized by enclosing the drying agent which absorbs moisture in the porosity bag body indicated by claim 1 thru/or any 1 term of 9.

[Claim 15] Dehumidification material characterized by enclosing the desiccant which absorbs the moisture in air in the porosity bag body indicated by claim 1 thru/or any 1 term of 9.

[Claim 16] The scent bag characterized by enclosing the perfume of evapotranspiration nature in the porosity bag body indicated by claim 1 thru/or any 1 term of 9.

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[Translation done.]

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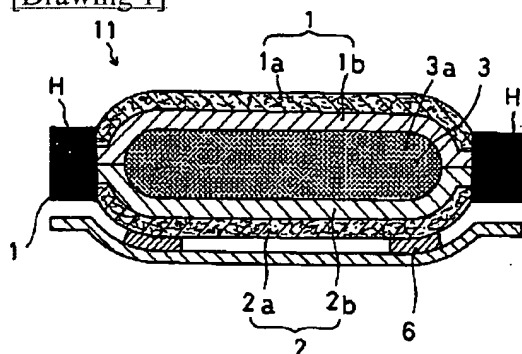
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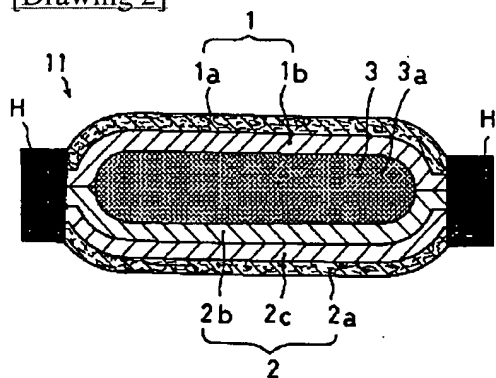
**DRAWINGS**

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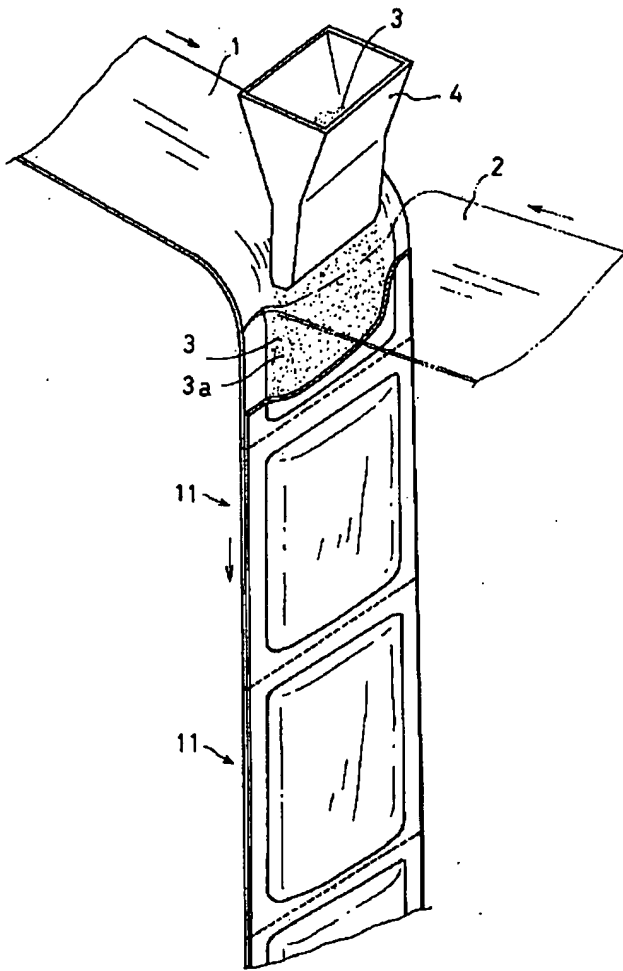
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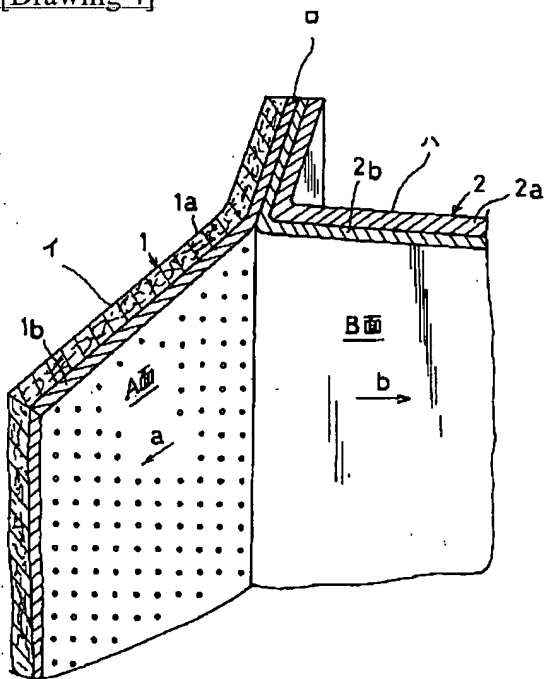
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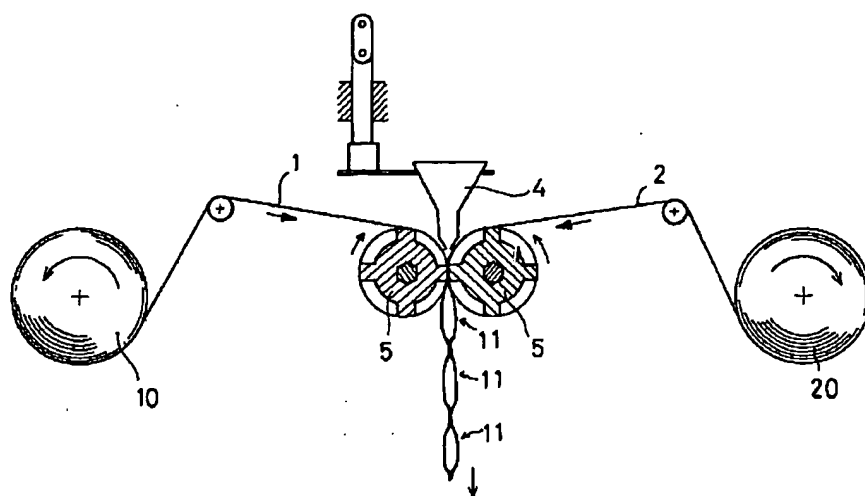
[Drawing 3]



[Drawing 4]



[Drawing 5]



[Translation done.]